

March 30, 2012

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Dear Ms. Baskin:

The Back River Watershed Association is responding to the opportunity to comment on the Draft SWMI Framework.

The Weymouth Back River is a short tidal river located in Hingham and Weymouth, Massachusetts, approximately ten miles [16 km] south of Boston. Whitman's Pond is the main source of the river which flows north through area tributaries in ponds and swamps, and empties into Hingham Bay and on to Boston Harbor. The Weymouth Back River is part of the Weymouth Back River Area of Critical Environmental Concern [about 950 acres]. This includes 180 acres [0.73 km<sup>2</sup>] of tidal waters. Within its salt marshes and wooded wild life preserves over 150 species of birds, including osprey, feed mostly on live fish such as flounder, herring, and perch. The Weymouth Back River Herring Run in East Weymouth is one of the most productive in Massachusetts. Weymouth town records of 1648 indicate the herring run provided an important food source for its citizens, and provided food for native and European people.

River herring continue their annual migration over wooden fish ladders to spawn at Whitman's Pond today, but in far less numbers than in previous years when herring were allowed to migrate to both Whitman's Pond and on to Great Pond. At present, the migration of the Back River herring does not have access to Great Pond, because the Town of Weymouth uses Great Pond as its primary water supply and the flow down Mill River has been affected by development and water demand. This has resulted in a significant loss of spawning habitat.

The Weymouth Back River Herring Run is located in a densely populated suburban setting that negatively affects the health of the herring spawning ground, as outlined in the attached, "Notes on Status of Weymouth Back River Herring Run." Invasive vegetation in Whitman's Pond is compromising water quality and thus the herrings' habitat. These threats and the decline in the number of herring migrating to the spawning ground combine to present a real threat to the species.

Additionally in Hingham, smelt migrate up the Back River to the Fresh River. The Fresh River is connected to Cranberry Pond. There are a number of wells used by Aquarian that serve the Town of Hingham. Any additional drawdown of the wells that affect the recharge rate of Cranberry Pond and in turn the Fresh River will have a detrimental affect on this migratory fish habitat.

In closing, the Back River Watershed Association thanks the agencies who have contributed to the SWMI process. The Massachusetts Division of Fisheries and Wildlife has noted the Back River as

an Area of Critical Environmental Concern and all of Whitman's Pond, Great Pond and parts of its watershed are listed as Core Habitat and Critical Natural Landscapes. We hope the SWMI process respects such environments and ensures the Safe Yield calculations are protective to migratory fish habitats.

Respectfully Submitted,

A handwritten signature in cursive script, reading "Linda J. DiAngelo". The ink is dark and the signature is fluid, with the first and last names being more prominent than the middle initial.

Linda J. DiAngelo

President,

The Back River Watershed Association

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## Notes on Status of Weymouth Back River Herring Run

Prepared January 2012

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The Weymouth Back River herring run is one of the most productive in Massachusetts. Since 1986, herring run counts in the Back River have ranged from 65,800 in 1998 to 859,000 in 1995. The average count during this 26-year period was 276,331, with a median of 239,850. The high average is driven by several peak years (1990, 1991, 1992, 1995) in which counts were above 400,000. Counts have not exceeded 400,000 since 1995. In the past ten years (2002 – 2011), counts have been below the 26-year average for each year except one (2002), and have been below the 26-year median in all years except three (2002, 2003, 2008).

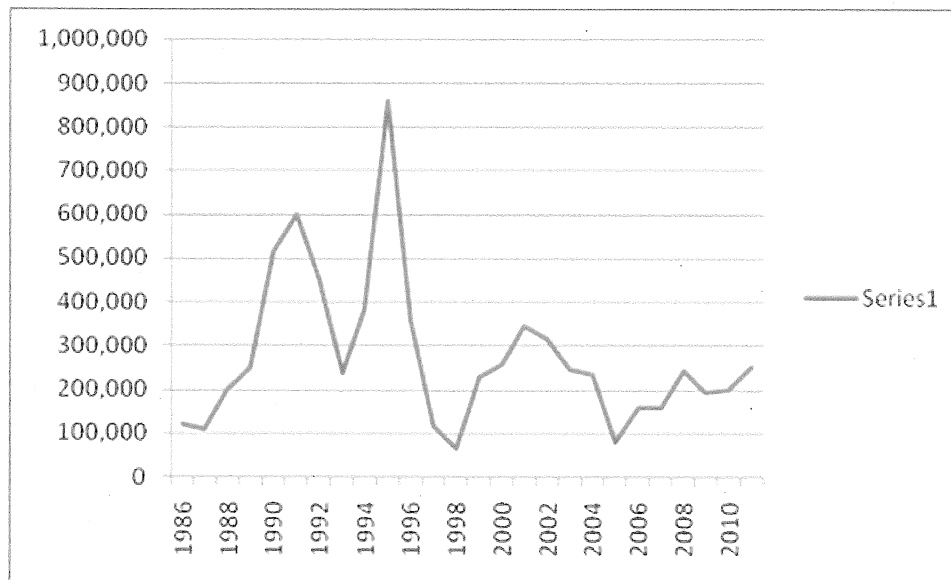


Table 1 Back River Herring run annual fish counts

Obstructions to fish passage are not a major concern in the Back River run. We are lucky to have committed Herring Wardens, volunteers, and town government that work together to ensure that the river is passable for migrating adults and juveniles.

The major concerns for the Back River herring run are related to conditions in the spawning grounds and migratory corridor. The area is heavily urbanized and the pond and river suffer from degraded water quality typical of urbanized areas. Whitman's Pond, the spawning ground, is hypereutrophic, with high nutrient levels, low dissolved oxygen levels, and a serious infestation of invasive and nuisance vegetation which adversely affects water quality and habitat. Competing uses for the spawning pond include recreation (boating and fishing) and an active water supply.

There are concerns that the degraded conditions in the spawning pond may decrease productivity and annual yield. Poor environmental conditions can have a negative impact on the final stages of egg and sperm formation in broodstock that are under stress. These stressors will likely result in a decreased fertilization rate, and smaller, less robust larvae. The continuing decline of the conditions in Whitman's Pond are likely to have a substantial impact on annual production.

Although the herring run migration numbers remain reasonably healthy at this time, the degradation of the spawning ground could severely compromise the population if trends are not reversed. The future health of the run may well be determined by the ability to properly manage the complex threats to and competing uses for the pond.

The Town of Weymouth is working with local stakeholders as well as specialists in the field of pond restoration to develop a detailed plan to restore Whitman's Pond to a healthy state and maximize river herring productivity.